1. **What do you understand by Database?**

A database is a structured collection of data that is organized and stored in a computer system. It can be accessed, managed, and updated easily. Databases are designed to manage large volumes of information efficiently.

1. **What is Normalization?**

Normalization is the process of organizing data in a database efficiently. This involves reducing data redundancy and dependency by dividing the database into smaller tables and defining relationships between them. The objective is to minimize redundancy and ensure data integrity.

1. **What is the difference between DBMS and RDBMS?**

DBMS (Database Management System) is a software system that allows users to interact with a database. It facilitates the creation, maintenance, and manipulation of databases. RDBMS (Relational Database Management System) is a specific type of DBMS that organizes data into tables with rows and columns, and establishes relationships between the tables using keys.

1. **What is the ACID rule of RDBMS systems?**

ACID stands for Atomicity, Consistency, Isolation, and Durability. It is a set of properties that guarantee database transactions are processed reliably. Atomicity ensures that transactions are all or nothing, Consistency ensures that transactions preserve the integrity of the database, Isolation ensures that transactions are processed independently, and Durability ensures that the effects of committed transactions persist even in the event of system failure.

1. **What do you understand by Data Redundancy?**

Data redundancy refers to the duplication of data in a database. It occurs when the same piece of data is stored in multiple places unnecessarily. Redundancy can lead to inconsistency and inefficiency in database management.

1. **What is DDL Interpreter?**

DDL (Data Definition Language) Interpreter is a component of a database system that processes and executes DDL commands. DDL commands are used to define, modify, and manage the structure of database objects such as tables, indexes, and constraints.

1. **What is DML Compiler in SQL?**

DML (Data Manipulation Language) Compiler is a component of a database system that processes and executes DML commands. DML commands are used to retrieve, insert, update, and delete data from a database.

1. **What are SQL Key Constraints? Write an example of SQL Key Constraints.**

SQL Key Constraints are rules applied to columns in a table to enforce data integrity and define relationships between tables. Examples include PRIMARY KEY, UNIQUE, FOREIGN KEY, and CHECK constraints. Here's an example of SQL key constraints:

sql

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CREATE TABLE Employees (

EmployeeID INT PRIMARY KEY,

FirstName VARCHAR(50),

LastName VARCHAR(50),

DepartmentID INT,

FOREIGN KEY (DepartmentID) REFERENCES Departments(DepartmentID)

);

1. **What is a Save Point? How to create a save point? Write a query.**

A Save Point is a point in a transaction where you can mark a spot to which you can later roll back. It allows you to divide a transaction into smaller parts and roll back to a specific point if necessary. Here's how you can create a save point in SQL:

sql

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SAVEPOINT my\_savepoint;

1. **What is a Trigger, and how to create a Trigger in SQL?**

A Trigger is a special type of stored procedure in a database that automatically executes in response to certain events or conditions. Triggers are used to enforce business rules, maintain data integrity, and automate actions. Here's how you can create a trigger in SQL:

sql

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CREATE TRIGGER trigger\_name

AFTER INSERT ON table\_name

FOR EACH ROW

BEGIN

-- trigger body (actions to be performed)

END;